

SECTION 05 4000

COLD-FORMED METAL FRAMING

LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Structural POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within "stars" during editing.

Specification developed for ML-3 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. [Load bearing cold formed steel stud exterior wall, and associated framing.]
- B. [Formed steel joist framing, purlins and bridging.]

1.2 SUBMITTALS

- A. Submit the following in accordance with Sections 01 3300, Submittal Procedures:
 - 1. Catalog data on standard framing members describing materials, finish and including structural properties tables.
 - 2. Installation instructions indicating special procedures, perimeter conditions requiring special attention.

1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section.
- B. Installer: Company specializing in performing the work of this section having installed a minimum of 10 projects of similar scope.

PART 2 PRODUCTS

2.1 FRAMING MATERIALS

Structural engineer will determine sizes of members.

- A. Studs: ASTM C955, formed to channel shape, punched web, [18 gage thick and 6 inch nominal depth.]
- B. Joists [and Purlins]: ASTM A525 Grade sheet steel, formed to channel shape, unpunched web; [16 gage thick and 8 inches deep], [purlins 20 gage thick and 6 inches deep.]
- C. Track: Formed steel; channel shaped; same width as studs, tight fit; gage to match stud or joist thickness, solid web.

2.2 ACCESSORIES

- A. Bracing, Furring, Bridging: As indicated on the Drawings.
- B. Shop and Touch-Up Primer: SSPC - Paint 15, Type 1, red oxide.

2.3 FASTENING

- A. Welding: In conformance with AWS D1.1 and AWS D1.3.

2.4 FINISHES

- A. Studs: Prime paint. [Galvanized].
- B. Tracks and Headers: Prime paint. [Galvanized].
- C. Joists [and Purlins]: Prime paint.
- D. Bracing, Furring, Bridging: Same finish as framing members.
- E. Plates, Gussets, Clips: Same finish as framing members.
- F. Backpaint concealed primed metal surfaces to be in contact with concrete with protective backing paint to a minimum dry film thickness of 15 mils.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that building framing components are ready to receive work.

3.2 ERECTION OF STUDDING

- A. Install components in accordance with both manufacturer's instructions and AISI, "The Design and Fabrications of Cold-Formed Steel Structures."
- B. Align floor and ceiling tracks; locate to wall and partition layout. Secure in place as shown on Drawings.
- C. Place studs at 16 inches not more than 2 inches from abutting walls and at each side of openings.

- D. Construct corners using minimum three studs. Double stud wall openings, door and window jambs.
- E. Erect load bearing studs one piece full length. Splicing of studs is not permitted.
- F. Erect load bearing studs, brace, and reinforce to develop full strength, to achieve design requirements.
- G. Coordinate placement of insulation in multiple stud spaces made inaccessible after erection.
- H. Install intermediate studs above and below openings to align with wall stud spacing.
- I. Touch-up field welds and damaged primed surfaces with primer.

3.3 ERECTION OF JOISTS [PURLINS]

- A. Install framing components in accordance with manufacturer's instructions.
- B. Make provisions for erection stresses. Provide temporary alignment and bracing.
- C. Place joists 16 inches on center, to match studs. Connect joists to supports using welding method. [Place purlins 48 inches on center, maximum. Connect purlins to each joist using welding method.]
- D. Locate joist end bearing directly over load bearing studs or provide load distributing member at top of stud track.
- E. Provide web stiffeners at supports or provide continuous bearing track.
- F. Touch-up field welds and damaged primed surfaces with primer.

3.4 ERECTION TOLERANCES

- A. Conform to a variation from true position of 1/4 inch or less.
- B. Conform to a variation of any member from plane of 1/4 inch in 10 feet or less, 1/2 inch maximum.

END OF SECTION

Do not delete the following reference information:

FOR LANL USE ONLY

This project specification is based on LANL Master Specification 05 4000 Rev.0, dated January 6, 2006.